

# Other Livestock Species



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## Content

- Livestock (and Poultry) Standards of Care
- General Husbandry of Livestock
- Pigs
- Ruminants
  - Sheep
  - Goats
  - Cows

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## Who has...

- ...worked a case involving livestock?
- ...had to impound livestock?
- ...a background in raising livestock?
- ...no prior experience working with livestock?



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## Indiana Livestock (and Poultry) Standards of Care



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## Standards of Care

### *Core Principles:*

- Care is reasonably expected to maintain health;
- Appropriate to species, breed, sex and age; and
- Raised using an applicable production method.
- A person responsible for care
  - Has custody of the animal
  - Has immediate charge and control with implicit responsibility for protection and care.
  - Not necessarily the owner



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## Standards of Care, *cont.*

1. Food & Water
  - Provide access to food and water that can reasonably be expected to maintain the health of the animal
2. Shelter
  - Sufficient shelter from the weather when it can reasonably be expected to be necessary to maintain the health of the animal



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## Standards of Care, *cont.*

### 3. Disease, Injury, and Treatment

- Reasonable measures to protect from injury or disease that can be expected to seriously endanger the life/health of the animal
- When injury or disease seriously endangers the life or health of the animal: provide treatment or euthanize



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## Standards of Care, *cont.*

### 4. Animal Stewardship

- Provide an environment reasonably expected to maintain the health of the animal

### 5. Handling and Transportation

- Use methods and equipment reasonably expected to prevent injury that would endanger the life or health of the animal

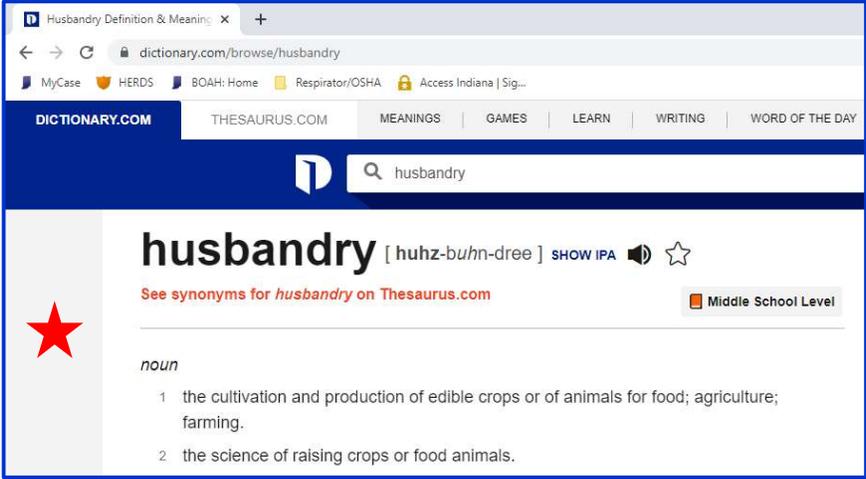


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# General Husbandry of Livestock



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husbandry [ huhz-buhn-dree ] [SHOW IPA](#) 

[See synonyms for husbandry on Thesaurus.com](#) Middle School Level

*noun*

- 1 the cultivation and production of edible crops or of animals for food; agriculture; farming.
- 2 the science of raising crops or food animals.

“Husbandry”

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## Debris and Hazards

- Pastures, stalls, pens, or other living environments should be free of wood, metal, or other debris and hazards
- Sharp edges can cause cuts or lacerations to the skin or eyes of the animals which can lead to infection, blood loss, lameness or other injuries.
- Ingestion of metal objects in a ruminant animal can lead to a condition called hardware disease where the object penetrates the lining of the stomach and the heart causing infection, pain and death.

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## Pigs (Porcine)

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## Gender & Age Terminology

- **Boar**

- Uncastrated

- **Barrow**

- Castrated

- **Gilt**

- Has not birthed piglets

- **Sow**

- Has birthed piglets

- **Piglet**

- Birth to weaning



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## Food & Water

- Pigs prefer access to food and water continuously, but at minimum should have:
  - Free access to clean, fresh water no less than once daily
    - Pigs consume ~½ gal per pound of feed consumed daily
  - Free access to a balanced, commercial, age-appropriate swine feed no less than once daily
    - Nutrition is very dependent on age and stage of life cycle.
    - Feed to desired body condition (discussed in later slide)!



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## Temperature Regulation

- Pigs are more tolerant of cold weather than hot.
- Pigs *do* have sweat glands and *can* sweat.
- ★ • Do not utilize sweating as their primary form of temperature regulation.
- Pigs roll in mud to create a protective barrier from the sun.
- Pigs also enjoy cooling off in water.

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## Intelligence & Socialization

- Pigs are consistently believed to be more intelligent than dogs, and as smart as, if not smarter than, chimpanzees.
- Pigs are very social animals.
  - They prefer to be in groups.
    - Social enrichment – allowing pigs the ability to smell, see and hear other pigs.
  - Domestic pigs are rarely aggressive under normal circumstances.

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## ★ “Rooting”

- Natural behavior of using the snout to push/bump into things repeatedly
- Reasons:
  - Comfort (a behavior displayed as a piglet while obtaining milk from mother)
  - Communication
  - Search for food
  - To cool off (dig a hole)

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## Shelter Requirements

- Shelter must be provided to protect pigs from the elements.
- Space allowance is important for optimal well-being.
  - Large enough for all pigs to lie down at the same time
  - Allow for distinct locations for feeding, sleeping, interacting with other pigs, and defecating.
- Should reflect an effective environmental temperature appropriate for the age of pig
- Flooring should be such to prevent injuries.



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## Shelter Requirements, *cont.*

Stage of Production	Lower Critical Limit (°F)	Upper Critical Limit (°F)	Optimum Range for Health and Production (°F)
10 – 30 lbs	60	95	80 – 90
30 – 75 lbs	40	95	65 – 80
75 – 150 lbs	25	95	60 – 75
150 lbs – market weight	5	95	50 – 75
Gestating sows	5	90	60 – 75
Lactating sows and litters	50 for sow	90 for sow	60 – 80 for sows; 90 – 95 for piglets
Boars	5	90	60 – 75

Table from National Pork Board's *Swine Care Handbook*

- Necessary to provide supplemental heating or cooling when temperatures are outside the pigs' optimum range for health and production



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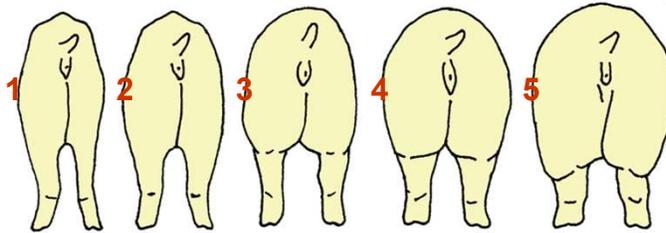
## Hooves and Toes

- Pigs have four toes, but only two touch the ground.
- Pigs require hoof trimming ~6-12 months.
- Severe overgrowth can lead to pain, lameness, and reluctance of the pig to stand or walk around.



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## Body Condition Scoring



Detection of ribs, back bone, Score Condition "H" bones, and pin bones

1	Emaciated	Obvious
2	Thin	Easily detected with pressure
3	Ideal	Barely felt with firm pressure
4	Fat	None
5	Overly fat	None

Taken from "Assessing Sow Body Condition" by R.D. Coffey, G.R. Parker, and K.M. Laurent (ASC-158; 1999)



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# Ruminants



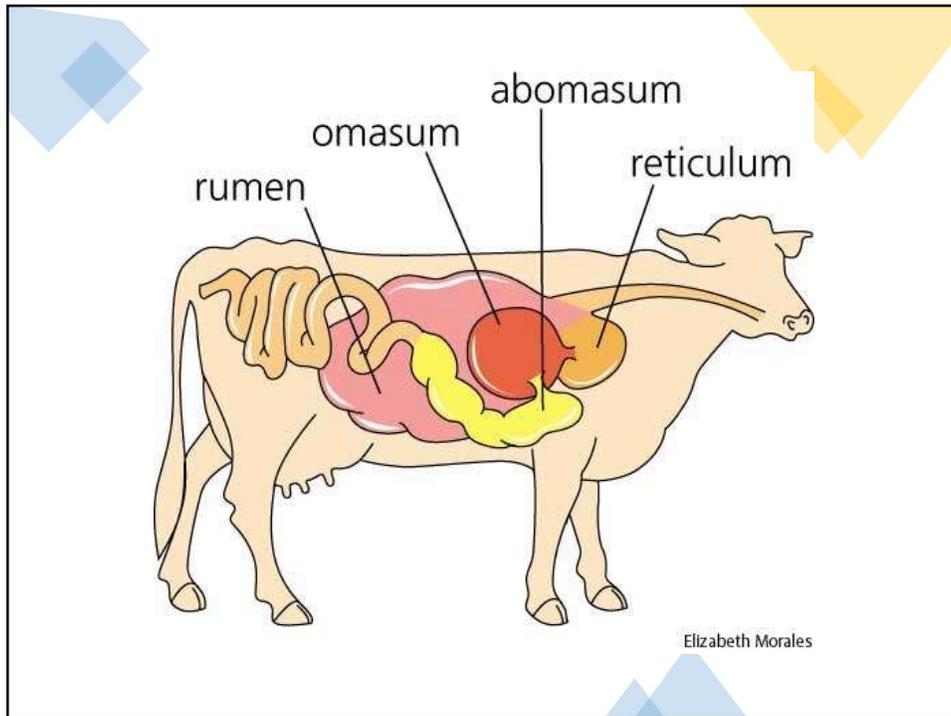
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## What is a ruminant?

- Hoofed mammal
- Unique digestive system that allows better digestion and use of plant material/feedstuffs
- Four compartment stomach:
  - Rumen
  - Reticulum 
  - Omasum
  - Abomasum ("true stomach")



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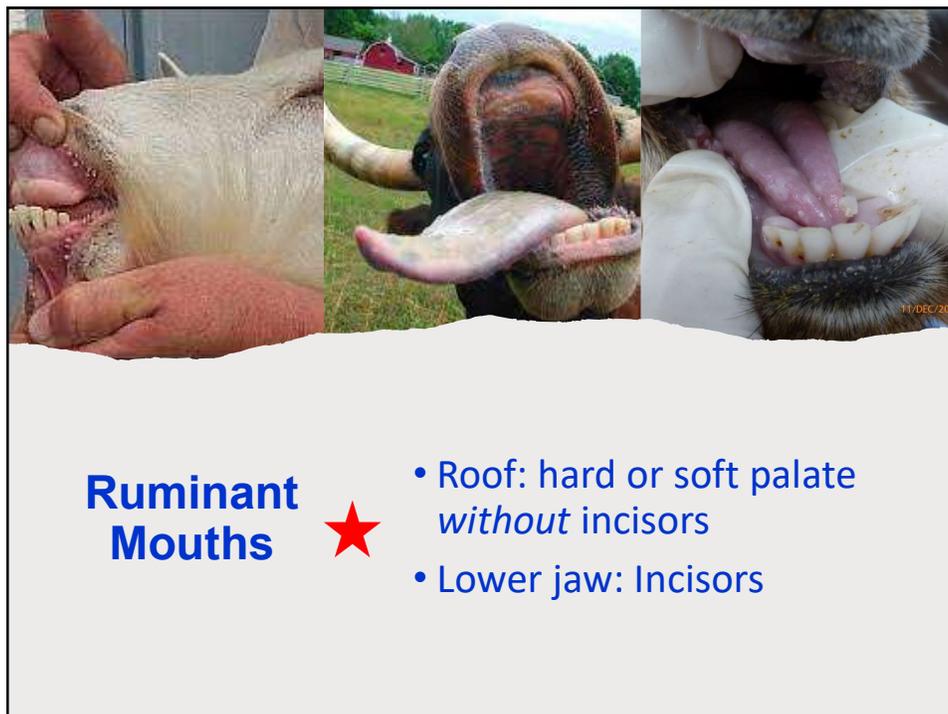
## Ruminant Species

- Cattle
- Sheep
- Goats
- Llamas and alpacas
- Deer
- Giraffes
- Moose
- Reindeer
- Species that eat hay and grass (except horses)

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## “Chewing the Cud”



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## ★ Horns

- **Cattle**
  - Dairy breeds more likely to have horns, but most dehorned on commercial farms
- **Sheep**
  - Varies
  - Some breeds have horns, others are polled
  - Can be both male and female or just rams
- **Goats**
  - Most breeds born with horns
  - Both sexes have horns
  - Will sometimes be dehorned as kids



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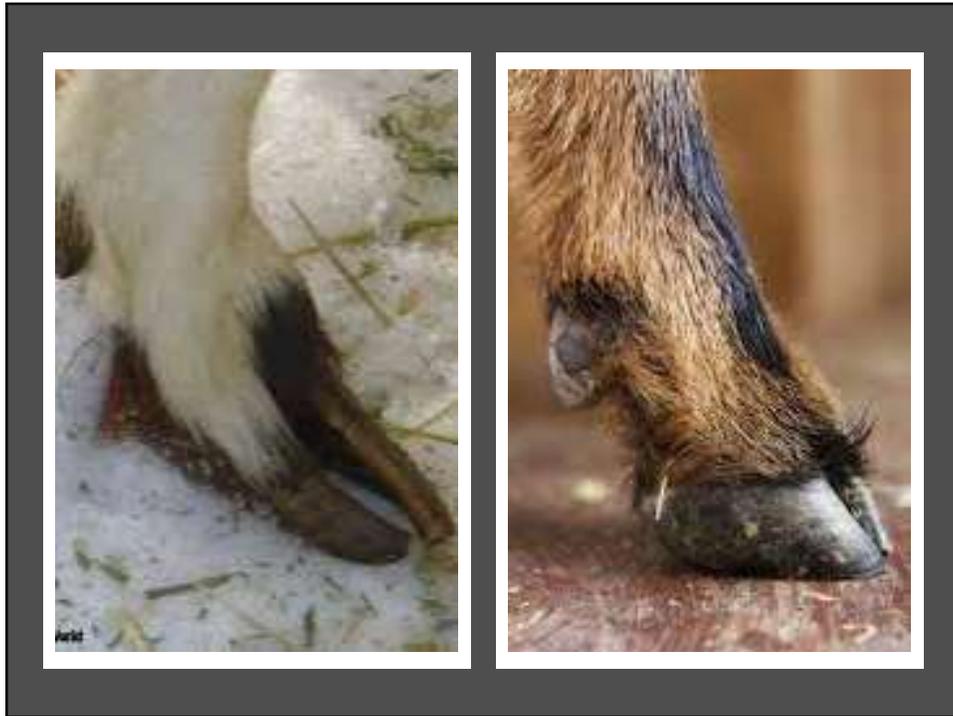


## Hooves

- Cloven hoof
- Walk on two toes
- Require regular trimming unless wearing down naturally




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## Sheep (Ovine)

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## Gender & Age Terminology

- **Ram**
  - Uncastrated male
- **Wether**
  - Castrated male

- **Ewe**
  - Adult female
- **Cull Yow**
  - Too old for breeding

- **Lamb**
  - <1 year old
- **Yearling**
  - 1-2 years old



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## Food & Water

- Sheep prefer access to fresh, unfrozen water continuously, but at minimum 0.5 to 2 gallons per day depending on size and stage of life.
- Depends on stage of life: growing lambs, gestation, lactation, maintenance
- Require pasture or hay with supplemental grain
- 2-4 pounds of hay per day for average sized sheep
- Grain should be sheep specific as they are sensitive to copper



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## Shelter Requirements

- Sheep may be kept in a barn year-round or may be in a field/pasture.
- Sheep need shelter/protection from extreme weather; this can be man-made or naturally occurring (a tree line).



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## ★ Wool Shearing

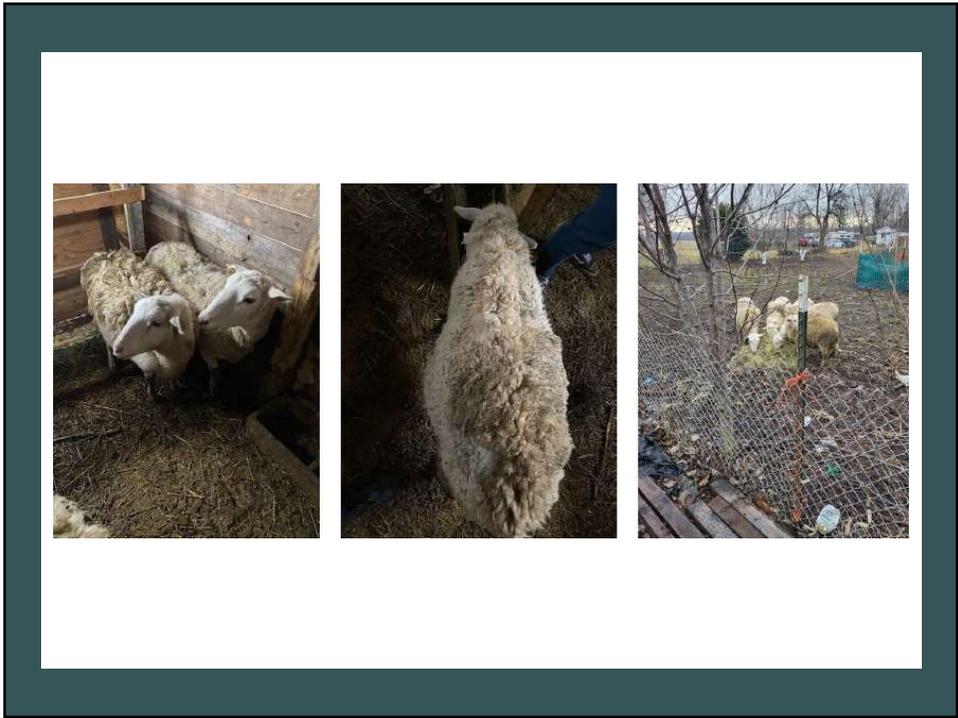
- Wool can act as a natural insulator providing warmth for the animal in cold temperatures and providing cooling for the animal in the warmer months.
- If the wool becomes excessively dirty, it can lose these insulating characteristics. Shearing is then recommended.
- Similarly, in periods of extreme heat, it is recommended that sheep be sheared to help with body temperature regulation.



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## Goats (Caprine)

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## Gender & Age Terminology

- Buckling
  - <1 year old
- Buck/Billy
  - 1+ year old, uncastrated
- Wether
  - 1+ year old, castrated

- Doeling
  - <1 year old
- Doe
  - 1+ year old

- Kid
  - Birth to ~6 months old
- Yearling
  - 1-2 years old

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## Food & Water

- Known to eat (or attempt to eat) nearly anything, particularly items resembling plant-like material (clothing, cardboard, tags, etc.)
- Browsers (preferably eat leaves, shrubs, bushy plants, and not grass)
- Adult goats require 1-3 gallons of water/day on average
- Good quality hay/pasture/browse is the mainstay of a goat's diet. Growing, lactating, and gestating goats require some additional grain (0.5-1.0 lb/day) but other adult goats do not need supplemental grain. Concentrates can predispose male goats to urinary calculi.



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## ★ Behavior

- Very curious
- Agile (climb, jump, balance)
- Escape artists due to agility and curiosity
- Will spread out in a field (not graze side-by-side like sheep)



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## Shelter Requirements

- Like sheep, goats may be kept in a barn year-round or in a field/pasture.
- Goats need shelter/protection from extreme weather; this can be man-made or naturally occurring (a tree line).
- 15 ft<sup>2</sup>/adult goat if kept indoors
- Indoor accommodations require good ventilation



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## Parasites

- **Internal**
  - Roundworms
  - Lung worms
  - Liver flukes
  - Protozoa
- **External**
  - Lice
  - Mites



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## Sheep v. Goat

### • Sheep

- Tail hangs down
- Uninterested
- Philtrum (groove) in upper lip
- Strong flocking instinct
- Horns will curl to the sides

### • Goat

- Tail points up
- Curious
- No philtrum
- Independent
- Horns point up/back

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## Body Condition Scores – Sheep/Goats

**Condition 1 - Emaciated**  
Spine prominent and sharp  
No fat cover  
Transverse process sharp  
Fingers easily pass under

**Condition 2 - Thin**  
Spine prominent and smooth  
Thin fat cover  
Muscles medium depth  
Transverse process rounded  
Fingers go under with pressure

**Condition 3 - Average**  
Spine rounded and smooth  
Moderate fat cover  
Muscles full  
Transverse process smooth and rounded  
Fingers need hard pressure to find ends

**Condition 4 - Fat**  
Spine detected only as a line  
Fat cover thick  
Muscles full  
Transverse process cannot be felt

**Condition 5 - Obese**  
Spine not detectable; fat dimple over spine  
Fat cover very thick  
Muscles very full  
Transverse process not detectable

Adapted from "Body Condition Scoring of Sheep" by J.M. Thompson and H. Meyer (Oregon State University)

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**BCS 1: Side View**

**BCS 1: Top View**

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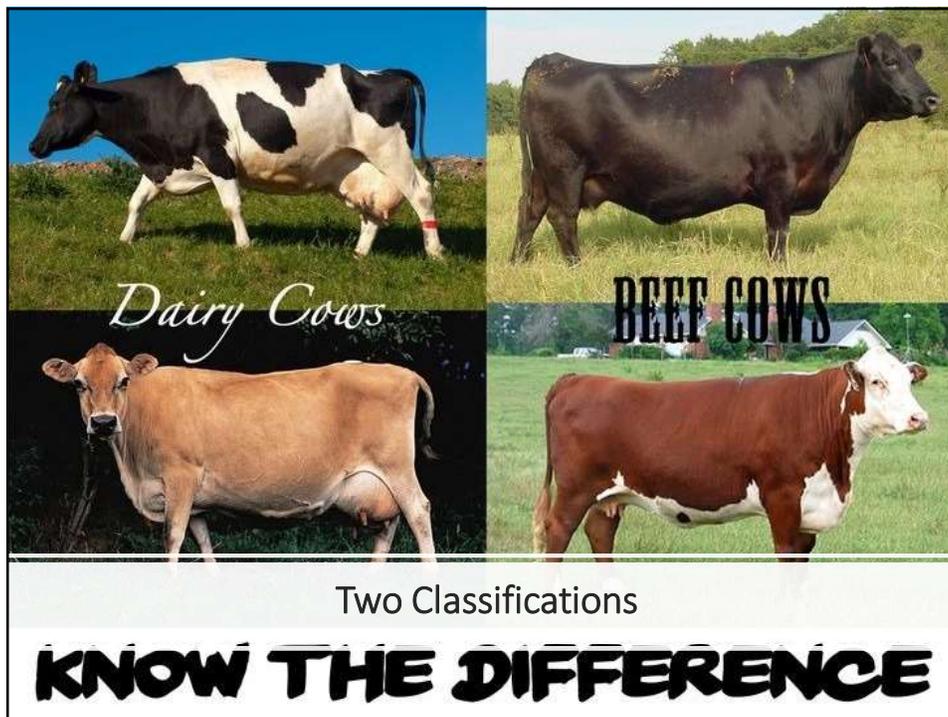
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# Cattle (Bovine)

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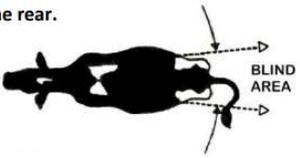
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### The Blind Spot

Cattle have panoramic, almost 360 – degree vision. Their only blind spot is directly behind them, so never approach a cow from the rear.



### The Kick Zone ★

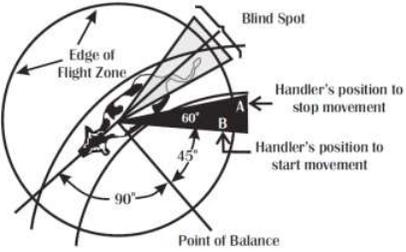
Cows kick forward and out to the side. Cows experiencing pain from inflammation or injuries have a tendency to kick toward that side. Avoid being kicked by keeping this in mind.



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### The Flight Zone

The flight zone is the animal's personal space, and the wildness or tameness of the animal determines the size of the flight zone. An animal will begin to move away when the handler penetrates the edge of the flight zone. To keep animals calm and move them easily, the handler should work on the edge of the flight zone.



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**Point of Balance**

An animal's point of balance actually related to its flight zone. With most cattle, the shoulder is the point of balance. To move the animal forward, stand behind the point of balance and move in and out of the flight zone. To move an animal backward stand in front of the point of balance and move in and out of the flight zone.

**These are certain things animals want to do as long as they are in a normal mental state**

- They want to move in the direction they are headed
- They want to follow other animals
- They want to see what is pressuring them
- They have very little patience

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## Gender & Age Terminology

- **Steer**
  - >1 year old, castrated
- **Bull**
  - 1+ year old, uncastrated

- **Heifer**
  - Never had a calf
- **Cow**
  - Has had a calf

- **Calf**
  - <1 year old
- **Yearling**
  - 1-2 years old



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## Behavior

- Herd animal
  - Always have a companion
  - Doesn't have to be same species but should be another prey animal
- Prey animal
  - Doesn't want to be trapped
- Hierarchy
- Food acquisition takes large portion of day



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## Water & Food

- Salt or mineral block
- Water:
  - Dry or low-end production: 15 gallons
  - Heavy lactating: 25 gallons
  - Free-choice
- Food:
  - Dry or low-end production: Avg. 27 lbs. hay
  - Heavy lactating: Avg. 27 lbs. hay plus grain



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## Dairy Cattle Behavior

- Herd animal
  - Always have a companion
  - Doesn't have to be same species but should be another prey animal
- Prey animal
  - Doesn't want to be trapped
- Hierarchy
- Food acquisition takes large portion of day
- Acclimated to humans and milking routine



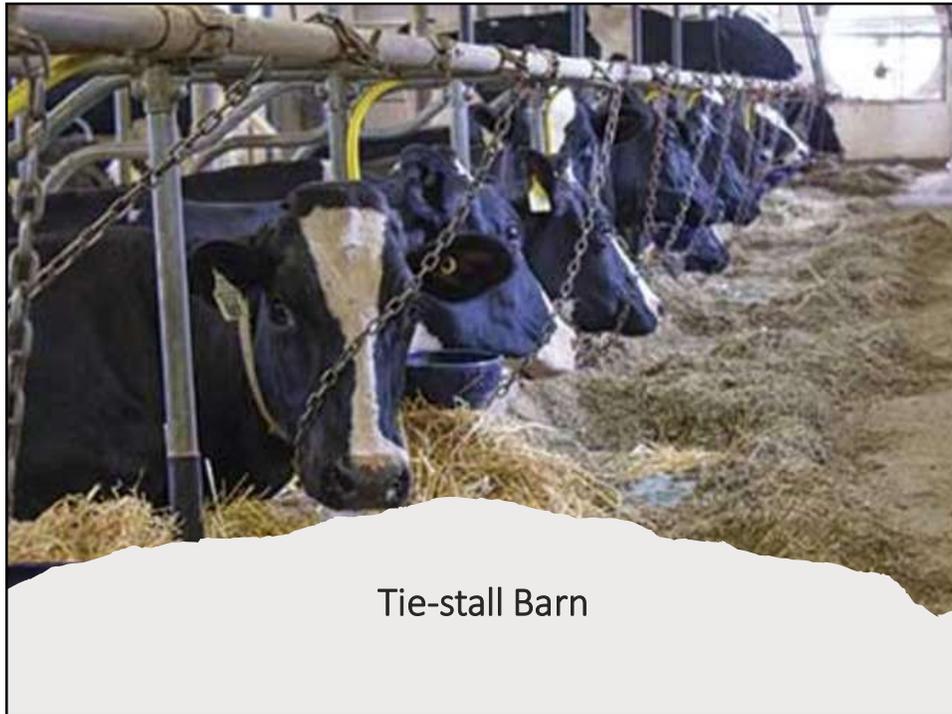
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## Dairy Cattle: Shelter

- Similar needs to beef cattle
- May have access to pasture
- May be completely confined



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## Dairy Cattle Stewardship/Environment

- Large enough to allow normal movement
- Dry bed area
- Soft/supportive bed material
- Minimal waste
- Minimal ammonia
- Minimal slipping – heavily grooved concrete
- Minimize chance of escape

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## Dairy Cattle Elanco Body Condition Scoring System

- Emaciated: 1.0 – 1.5
- Thin: 2.0
- Normal: 2.5 – 3.5
- Overweight: 4.0 – 5.0

Recommended body condition scores at various stages of lactation are:	
Calving	3.0 to 3.5
Breeding	2.5
Late lactation	3.0 to 3.5
Dry period	3.0 to 3.5



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**1**

Deep cavity around tail head. Bones of pelvis and short ribs sharp and easily felt. No fatty tissue in pelvic or loin area. Deep depression in loin.

**2**

Shallow cavity around tail head with some fatty tissue lining it and covering the pins. Pelvis easily felt. Ends of short ribs feel rounded and upper surfaces can be felt with slight pressure. Depression visible in loin area.

BCS 1.75

Taken from "Elanco Body Condition Scoring" by Elanco Animal Health (Copyright 1994)

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BCS 3.5 





**3**

No cavity around tail head and fatty tissue easily felt over whole area. Pelvis can be felt with slight pressure. Thick layer of tissue covering top of short ribs which can still be felt with pressure. Slight depression in loin area.



**4**

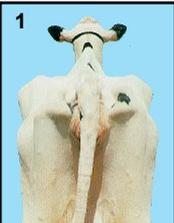
Folds of fatty tissue are seen around tail head with patches of fat covering pin bones. Pelvis can be felt with firm pressure. Short ribs can no longer be felt. No depression in loin area.

Taken from "Elanco Body Condition Scoring" by Elanco Animal Health (Copyright 1994)



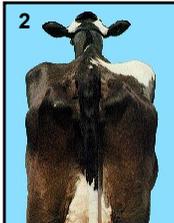
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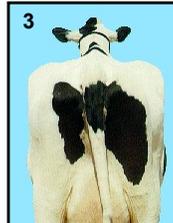
**1**

Deep cavity around tail head. Bones of pelvis and short ribs sharp and easily felt. No fatty tissue in pelvic or loin area. Deep depression in loin.



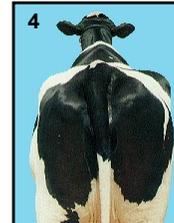
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Shallow cavity around tail head with some fatty tissue lining it and covering the pins. Pelvis easily felt. Ends of short ribs feel rounded and upper surfaces can be felt with slight pressure. Depression visible in loin area.



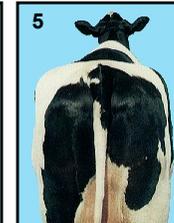
**3**

No cavity around tail head and fatty tissue easily felt over whole area. Pelvis can be felt with slight pressure. Thick layer of tissue covering top of short ribs which can still be felt with pressure. Slight depression in loin area.



**4**

Folds of fatty tissue are seen around tail head with patches of fat covering pin bones. Pelvis can be felt with firm pressure. Short ribs can no longer be felt. No depression in loin area.



**5**

Tail head is buried in thick layer of fatty tissue. Pelvic bones cannot be felt even with firm pressure. Short ribs covered with thick layer of fatty tissue.

Taken from "Elanco Body Condition Scoring" by Elanco Animal Health (Copyright 1994)



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5  
Tail head is buried in thick layer of fatty tissue. Pelvic bones cannot be felt even with firm pressure. Short ribs covered with thick layer of fatty tissue.

Taken from "Elanco Body Condition Scoring" by Elanco Animal Health (Copyright 1994)

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## Body Condition Scores – Beef Cows

SCORE	DESCRIPTION
1	Emaciated with muscle atrophy and no detectable fat. Tail head and ribs project prominently.
2	Poor condition with muscle atrophy and no detectable fat. Tail head and ribs prominent.
3	Thin condition with slight muscle atrophy and very little detectable fat. All ribs visible.
4	Borderline condition. Outline of spine slightly visible. Outline of 3 to 5 ribs visible. Some fat over ribs and hips.
5	Moderate condition and good overall appearance. Outline of spine no longer visible. Outline of 1 to 2 ribs visible. Fat over hips but still visible.
6	High moderate condition. Ribs and spine no longer visible. Pressure applied to feel bone structure. Some fat in brisket and flanks.
7	Good, fleshy appearance. Hips slightly visible but ribs and spine not visible. Fat in brisket and flanks with slight udder and tail head fat.
8	Fat, fleshy, and over-conditioned. Bone structure not visible. Large patchy fat deposits over ribs, around tail head, and brisket.
9	Extremely fat, wasty, and patchy. Mobility possibly impaired. Bone structure not visible. Extreme fat deposits over ribs, around tail head, and brisket.

Adapted from "Body Condition Scoring Beef Cows" by D.A. Eversole, M.F. Browne, J.B. Hall, and R.E. Dietz (Publication 400-795; 2000)

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## Miscellaneous Scoring Charts

- [Hock Assessment](#), Cornell University Extension
  - 1: no lesions
  - 2: hair loss, skin intact
  - 3: broken skin
- [Hygiene Score](#), N. B. Cook, University of Wisconsin-Madison
  - Score lower leg, udder, and upper leg/flank
  - 1: little to no manure
  - 2: minor splashing of manure
  - 3: distinct plaques of manure
  - 4: solid plaque of manure
- [Lameness Score](#), D. J. Sprecher
  - 1: Normal
  - 3: Moderately lame
  - 5: Severe lameness



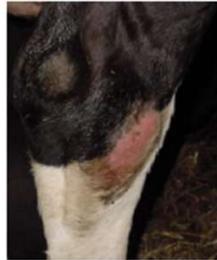
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**Cornell Cooperative Extension**

### Hock Assessment Chart for Cattle



**Score = 1**  
No swelling. No hair is missing.



**Score = 2**  
No swelling. Bald area on the hock.



**Score = 3**  
Swelling is evident or there is a lesion through the hide.



Tarsal (Hock) Joint

The normal, healthy hock is free from skin lesions and swelling. Ideally, the hair coat in that area is smooth and continuous with the rest of the leg.

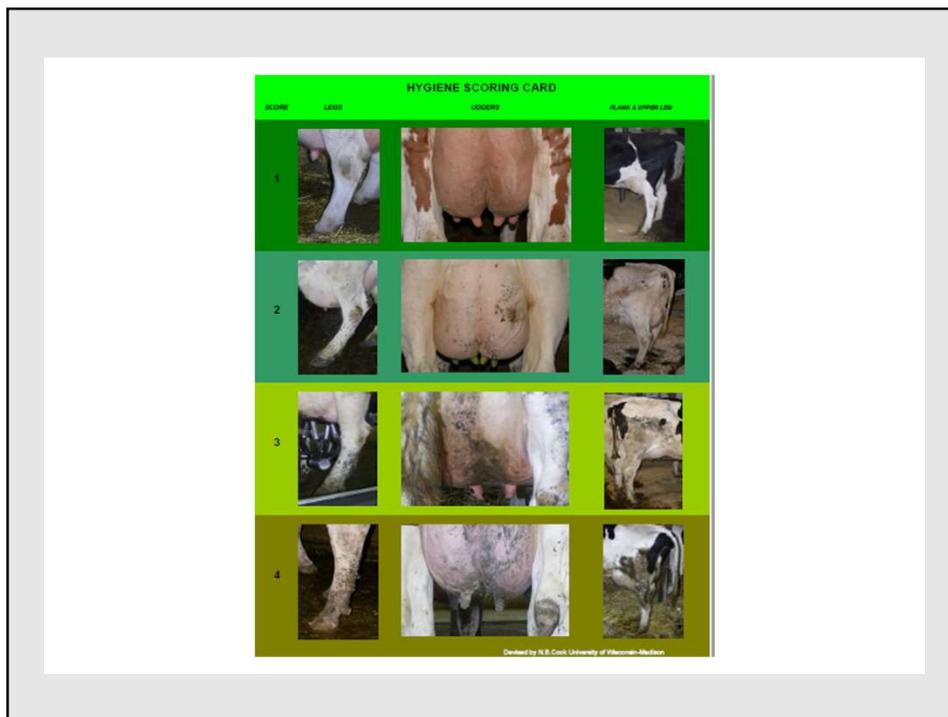
Hock health is an important indicator of the abrasiveness of stall bedding and cow comfort. Injury is usually the result of prolonged exposure to an abrasive stall surface. Skin breakage provides an opportunity for infection to occur, which can lead to swelling, discomfort, and possibly lameness.

A consistent method of scoring hocks for swelling and hair loss allows you to assess the need to modify your stall management and can help you evaluate the effect of management changes.

**Herd Assessment Method**

1. Score the rear hock (one or both) from at least 20 cows for each housing or management group.
2. For each score, enter a stroke in the appropriate box of the table.
3. Count the number of strokes for each score and enter in the "tally" box.
4. Enter the total number of hocks scored.
5. Divide "tally" by "total number" and multiply by 100. Enter as percent for each score.
6. Monitor monthly to assess a change in management or stall surface.
7. Note that in deep sand stalls that are well maintained, it is rare to find a hock with a score greater than 1.

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LOCOMOTION SCORE	TREATMENT	STANDING	WALKING
<p><b>1</b></p> <p><b>Clinical Description:</b> <b>Normal</b></p> <p><b>Visual Description:</b> Stands and walks normally with a level back. Pelvic legs positioned straight.</p>	<p><b>None</b></p> <p><b>Action:</b> Prevent or reduce lameness and pain.</p>	 <small>back motion standing: not</small>	 <small>back motion walking: not</small>
<p><b>2</b></p> <p><b>Clinical Description:</b> <b>Mild Lameness</b></p> <p><b>Visual Description:</b> Stands with flat back, but neither pelvic legs flat or slightly abnormal.</p>		 <small>back motion standing: not</small>	 <small>back motion walking: arched</small>
<p><b>3</b></p> <p><b>Clinical Description:</b> <b>Moderately Lameness</b></p> <p><b>Visual Description:</b> Stands and walks with an arched back and short stride with one or more legs. Right walking or unevenness on flat surface is the indicator for the affected limb may be evident.</p>	<p><b>Treat None</b></p> <p><b>Action:</b> The owner must refer the animal into the clinic, hospital and treated as soon as possible and monitored.</p>	 <small>back motion standing: arched</small>	 <small>back motion walking: arched</small>
<p><b>4</b></p> <p><b>Clinical Description:</b> <b>Lameness</b></p> <p><b>Visual Description:</b> Severe back arching and walking. Favoring one or more legs but not off the same weight on them. Pelvis on the floor is evident in the hindquarters for the affected limb.</p>	<p><b>Treat &amp; Observe</b></p> <p><b>Action:</b> The owner must refer the animal into the clinic, hospital, where no change in weight on the limb.</p>	 <small>back motion standing: arched</small>	 <small>back motion walking: arched</small>
<p><b>5</b></p> <p><b>Clinical Description:</b> <b>Severe Lameness</b></p> <p><b>Visual Description:</b> Pronounced arching of back. Pelvis on the floor with almost complete weight transfer on the affected limb.</p>		 <small>back motion standing: arched</small>	 <small>back motion walking: arched</small>

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